//PinAssignments

const int ledPin = 13; // Built-in LED const int tempPin = A0; //LM35sensor const int ldrPin = A1; // LDR sensor const int buzzerPin = 9; // Buzzer

constint pirPin=2; //PIRmotion sensor

void setup() { pinMode(ledPin,OUTPUT);

pinMode(buzzerPin,OUTPUT); pinMode(pirPin, INPUT);

Serial.begin(9600);

}

voidloop(){

// 1. LED Blinking (basic) digitalWrite(ledPin,HIGH); delay(500); digitalWrite(ledPin, LOW); delay(500);

//2.TemperatureSensor(LM35)

inttempReading=analogRead(tempPin); float temperature = tempReading \* 0.488;Serial.print("Temperature:");

Serial.print(temperature); Serial.println(" °C");

//3.LDRSensor

intlightValue=analogRead(ldrPin); Serial.print("Light Level: "); Serial.println(lightValue);

//LightcontrolledLED(turnONifdark) if (lightValue < 500) { digitalWrite(ledPin, HIGH); Serial.println("It's dark! LED ON");

} else{

digitalWrite(ledPin, LOW); Serial.println("Brightenough!LEDOFF");

}

//4.BuzzerAlertevery10seconds if (millis() % 10000 < 1000) { digitalWrite(buzzerPin, HIGH); Serial.println("Buzzer ON");

} else{

digitalWrite(buzzerPin,LOW);

}

//5.PIRMotionDetection

intmotion =digitalRead(pirPin);

if (motion == HIGH) { Serial.println("Motion Detected! 🔔");

digitalWrite(ledPin,HIGH);//Optional:alertviaLED

} else{

Serial.println("NoMotion"); digitalWrite(ledPin, LOW);

}

delay(1000);//Delaybetweenloops